

**FINDING OF NO SIGNIFICANT IMPACT  
AND  
DECISION  
FOR  
ENVIRONMENTAL ASSESSMENT  
REDUCING BEAVER DAMAGE THROUGH AN INTEGRATED  
WILDLIFE DAMAGE MANAGEMENT PROGRAM IN THE STATE OF  
MINNESOTA**

The U.S. Department of Agriculture, Animal and Plant Health Inspection Service (USDA-APHIS), Wildlife Services (WS) program responds to requests for assistance from individuals, organizations and agencies experiencing damage caused by wildlife. WS is the Federal program authorized by law to reduce damage caused by wildlife (Act of 1931, as amended (46 Stat. 1486; 7 U.S.C. 426-426c) and the Rural Development, Agriculture, and Related Agencies Appropriations Act of 1988, Public Law 100-102, Dec. 27, 1987. Stat. 1329-1331 (7 U.S.C. 426c). Wildlife damage management is the alleviation of damage or other problems caused by or related to the presence of wildlife, and is recognized as an integral part of wildlife management (The Wildlife Society 1992). WS uses an Integrated Wildlife Damage Management (IWDM) approach, commonly known as Integrated Pest Management (WS Directive 2.105) in which a combination of methods may be used or recommended to reduce damage. WS wildlife damage management is not based on punishing offending animals but as one means of reducing damage and is used as part of the WS Decision Model (Slate et al. 1992, USDA 1997, WS Directive 2.201). The imminent threat of damage or loss of resources is often deemed sufficient for wildlife damage management actions to be initiated (U.S. District Court of Utah 1993). Resource management agencies and individuals have requested WS to conduct beaver damage management to protect agricultural and natural resources, property, roads, railroads, and public health and safety in Minnesota. All WS wildlife damage management activities are in compliance with relevant laws, regulations, policies, orders and procedures, including the Endangered Species Act of 1973 and Clean Water Act.

Ordinarily, according to APHIS procedures implementing the National Environmental Policy Act (NEPA), individual wildlife damage management actions are categorically excluded (7 CFR 372.5(c), 60 Fed. Reg. 6000-6003, 1995). To evaluate and determine if any potentially significant impacts to the human environment from WS' planned and proposed program would occur, an environmental assessment (EA) was prepared. The EA documents the need for beaver damage management in Minnesota and assessed potential impacts of various alternatives for responding to damage problems. The EA analyzes the potential environmental and social effects for resolving beaver damage related to the protection of agricultural and natural resources, property, roads, railroads, and public health and safety on private and public lands in Minnesota. WS' proposed action is to implement an Integrated Wildlife Damage Management (IWDM) program on public and private lands in Minnesota. Comments from the public involvement process were reviewed for substantial issues and alternatives which were considered in developing this decision. Based on the analysis in the EA, I have determined that there will not be a significant impact, individually or cumulatively, on the quality of the human environment from implementing the proposed action, and that the action does not constitute a major federal action significantly affecting the quality of the human environment.

## Public Involvement

Notices inviting public comment were published in two prominent newspapers in the state. The pre-decisional EA was also mailed directly to agencies, organizations, and individuals with probable interest in the proposed program. A letter inviting comments and, subsequently, the pre-decisional EA were sent to potentially affected or interested American Indian Tribes to assure their opportunity to be involved in the EA process. Comments received were reviewed to identify any substantive new issues or alternatives not already identified for analysis. All letters and comments are maintained in the administrative file located at the Minnesota Wildlife Services Office, 34912 U.S. Hwy. 2, Grand Rapids, MN 55744.

Two comment letters were received, one in response to a newspaper notice, the other in response to the pre-decisional EA itself. One comment letter was actually a request for assistance in resolving beaver damage to private property, the other comment letter contained some concerns over various aspects of the proposed program. Although most of the concerns raised were already addressed in the EA, several of the comments indicated areas that warranted additional clarification or treatment. These are:

- 1) The EA does not satisfactorily define: healthy population, biological and cultural carrying capacity.

In the context of the Minnesota beaver EA, WS uses the term "healthy" to mean a self-sustaining population of native wildlife in which most individuals in the population are free from disease. The biological carrying capacity is simply the maximum number of a species that can be supported by a certain area. For beaver in Minnesota this has been clearly identified in both Section 1.1, (Beaver Ecology) and Section 4.2.3, (Beaver Population Impact Analysis). Based on annual aerial beaver surveys conducted by the Minnesota DNR, 3.55 live colonies per stream mile is the highest beaver density identified in 25 years of annual aerial beaver surveys and is currently used by WS as the maximum biological carrying capacity for beaver in Minnesota. The cultural or social carrying capacity is more difficult to define. Decker and Purdy (1988) define cultural carrying capacity or wildlife acceptance capacity as the limit of human tolerance for wildlife or the maximum number of a given species that can coexist compatibly with local human populations. Within this context, Minnesota appears to be at its cultural carrying capacity, that is, statewide the beaver population is stable at average densities of .58 live colonies per stream mile. Although certain areas, because of lower human or road densities can support higher densities of beaver, .58 live colonies per stream mile currently seems to be the point at which beaver populations and human threshold for beaver damage have met.

- 2) There has not been a comprehensive survey of beaver damage in Minnesota.

Although not all-inclusive, the 24 page Minnesota Department of Natural Resources (DNR) overview of wildlife damage programs is the best known statewide survey of beaver damage available. This survey was identified and discussed Section 1.3.2 (Damage from Beaver Activities).

- 3) WS did not include a list of repellents registered for use on beaver.

The only repellent registered to reduce gnawing, nibbling and chewing from beaver is a product called Ropel®. While use of this product could protect individual trees from damage caused by chewing, it does nothing to address the damage that beaver can cause to trees and other resources by flooding.

- 4) The EA does not give criteria for an “appropriate response” to beaver damage.

The EA specifically states in Section 1.6, (Proposed Action) and Section 3.2.3, (WS Decision Making), that WS determines the most appropriate response to a wildlife damage situation, with the WS Decision Model (Slate et al. 1992).

- 5) WS does not provide a thorough enough analysis of effects on threatened and endangered (T/E) species, including 183 state-listed species.

It is beyond the scope of an EA to detail every possible effect on 195 different species of plants and animals. An analysis of potential impacts as a result of WS actions are found in section 4.2 of the EA. WS utilizes experts from other agencies to provide information and expert advice on potential impacts that may occur as a result of WS's actions. In this case the Minnesota DNR, Natural Heritage and Nongame Research Program were contacted by WS to identify any potential impact on state listed species. In a March 16, 2001 letter, the Minnesota DNR indicated that WS beaver damage management activities would have no adverse effect on state listed animal species. The MDNR did recommend specific mitigation measures to prevent adverse effects to two state listed species; small white waterlily (*Nymphaea leibergii*), state threatened, and floating marsh marigold (*Caltha natans*) state endangered. The USFWS was contacted regarding possible negative impacts of the proposed action on federally threatened or endangered species. In a February 28, 2001 letter, the USFWS concurred with the WS finding of not likely to adversely affect federally listed species by the proposed action. The USFWS did provide specific mitigation measures for removing beaver dams near eagle nests. Mitigating measures to avoid negatively impacting the two state listed plant species and bald eagle nests were incorporated into the EA as Appendix D (Specific Mitigation Measures).

- 6) 330 Conibear type (body gripping) traps are ineffective as a kill trap and threaten pet health and safety.

This issue is discussed in detail in Chapter 2 and 4 of the EA. The 330 conibear has met International Humane Trapping Standards (IHTS) as a killing trap for beaver (Fur Institute of Canada, 10/1/98). Other beaver sized conibear type traps have since met IHTS standards for humaneness, both on land and underwater (Fur Institute of Canada 8/1/2001). WS personnel are trained in the proper use of 330 conibear traps to avoid capture of non-target animals, especially pets. As directed by WS policy, all conibear type traps with a jaw spread exceeding 8” are restricted to water sets. This greatly reduces the chance of a pet being captured.

- 7) Drowning while caught in a trap is an inhumane form of euthanasia.

This issue is discussed in detail in Chapter 2 and 4 of the EA. WS understands the need to be humane when euthanizing animals, however the practicality of euthanasia methods in field settings needs to be considered as well. The humaneness of the 330 conibear trap was covered in response #6. Beaver captured alive in foothold traps, snares or live traps are euthanized with a gunshot, an AVMA approved form of euthanasia (Beaver et al. 2001). A percentage of beaver captured by the Minnesota WS program are taken in foothold traps modified with a one way lock which allows the animal to reach deep water and drown. Although this is not an AVMA approved method of euthanasia, it is considered more humane by WS than possible damage to the beaver's captured limb in a foothold restraining trap and is the best method in certain field situations. Justification of foothold traps is clearly discussed in Section 2.2.4 of the EA (Humaneness of Methods to be Used). Alternatives to foothold traps, as suggested by the commentors have several noteworthy disadvantages. First of all beaver live traps such as Bailey or Hancock (\$320.00 ea.) are much more expensive than a foothold beaver trap (\$23.95 ea.). They are also much heavier and more cumbersome than foothold traps. Live traps are also more dangerous to the person setting the trap than a standard foothold beaver trap.

Other recommended forms of euthanasia also have disadvantages. Field sedation or anesthesia of beaver and transport from the field to a CO<sub>2</sub> chamber would be very time consuming and would require more personnel and funding than currently available. The same disadvantages hold true for transporting a CO<sub>2</sub> chamber into the field. Barbiturates for euthanasia have several disadvantages: 1) they are a DEA controlled substance which requires the user to have DEA registration, 2) barbiturates also have human abuse potential, 3) barbiturate solutions for euthanasia require an IV injection that may be difficult to administer in a field setting, and 4) care must be taken to properly dispose of carcasses of animals euthanized with barbiturates so they are not eaten by predators or scavengers.

- 8) The status of wetlands in areas of beaver dam removal are not examined in the EA.

WS relies on wetland regulation experts to determine the effects of removing beaver dams on wetlands. As stated in the EA in Section 2.4.2 (Possible Effects on Wetlands from Removing Beaver Dams), and in Appendix C (Methods used by Minnesota WS for Beaver Damage Management), beaver dam removal activities are exempted from U.S. Army Corps of Engineers wetland protection laws in Minnesota as well as the Minnesota Wetland Protection Act. Until either or both of these wetland protection agencies require wetland delineation and/or assessment, WS will not undertake these activities prior to beaver dam removal.

- 9) The impact of "catastrophic" dam removal by explosives is not adequately assessed.

WS relies on the wetland protection experts to determine if beaver dam removal activities are harmful to wetlands or in violation of state or federal law. As stated in response #8 and in the EA, beaver dam removal activities are exempted by both the Minnesota DNR and the U.S. Army Corps

of Engineers. Any effects caused by removing beaver dams with explosives would be similar to dams being breached naturally during high water events or under other natural circumstances.

- 10) WS has not given enough consideration to capture and relocation of damage causing beaver.

Due to the increased cost, poor survivability of translocated beaver and the potential for relocation of beaver-human conflicts, WS does not consider translocation a viable option at this time.

- 11) WS has not given enough consideration to water control devices to reduce flooding damage and does not back up the statement made in the EA that they may be "cost prohibitive".

The statement about water control structures being cost prohibitive was related to the initial cost and first year maintenance of the structure, which is approximately \$1542.00. WS in Minnesota has not installed any beaver levelers or other water control devices. WS has, however, recommended their use in certain situations and acknowledges the value of this tool in an integrated beaver damage management program. Several cooperating agencies of the MN WS program have used these devices with mixed results. In some situations they work well to lower water levels to acceptable levels, in other situations they are ineffective. Situations where they do not work well are listed in the EA in Section 2.4.7 (Breaching of Dams or Use of Water Control Structures Without Beaver Removal). These devices do nothing to address the direct damage to trees caused by beavers, only damage caused by water.

## **Major Issues**

Issues related to the proposed action were identified through the Minnesota WS program's experience with beaver damage management, input from cooperating agencies and other WS programs. Based on considerable experience by cooperating agencies and APHIS-WS in addressing concerns expressed by the public in past beaver damage management programs, the following issues were identified for consideration in detail in the EA:

- Effects on beaver populations
- Effects on native fish, wildlife and plant species, including T&E species
- Effects on public and pet health and safety
- Humaneness of methods to be used
- Impacts to stakeholders, including aesthetics

In addition to the identified major issues considered in detail, nine other issues were considered but not in detail.

## **Objectives**

- Attempt to balance the needs of the beaver as a dynamic part of the ecosystem and a fur resource, with the need to minimize damage to human interests.
- Respond to all beaver damage problems within 2 (two) weeks.

- Keep the take of non-target otters (*Lutra canadensis*) below 10% of the total take during beaver damage management operations.

### Alternatives Analyzed in Detail

Five potential alternatives were developed to address the issues identified above. Three additional alternatives were considered but not analyzed in detail. A detailed discussion of the anticipated effects of the alternatives on each issue considered in detail is described in Chapter 4 of the EA. The following summary provides a brief description of each alternative and its anticipated impacts.

- **Alternative 1 - No WS Beaver Damage Management in Minnesota.** This alternative would result in no assistance from WS in reducing beaver damage in Minnesota. WS would not provide technical assistance or operational damage management services. All requests for beaver damage management would be referred to the MDNR, local animal control agencies, or private businesses or organizations. Assistance may or may not be available from any of these entities. Impacts of this alternative would be variable dependent upon actions taken by affected resource owners. This alternative would not allow WS to respond to any requests, would not meet the management objectives of this EA, and would leave some members of the public without a means to reduce beaver damage.
- **Alternative 2 - Only Lethal Beaver Damage Management.** Under this alternative, only lethal operational damage management and technical assistance would be provided by WS. Beavers would be lethally removed under this alternative by WS, but not to the extent that statewide native wildlife populations would be negatively impacted. Requests for information regarding non-lethal management approaches would be referred to MDNR, local animal control agencies, or private businesses or organizations. Individuals or agencies might choose to implement WS lethal recommendations, implement non-lethal methods or other methods not recommended by WS, contract for WS direct control services, use contractual services of private businesses, use volunteer services of private organizations, or take no action. In some cases, control methods employed by others could be contrary to the intended use or in excess of what is necessary. This alternative would not allow WS to respond to all requests, would not meet the management objectives of this EA, and would leave some members of the public without a means to reduce beaver damage.
- **Alternative 3 - Integrated Beaver Damage Management for all public and private land (No Action/Proposed Action).** This alternative is the current MN WS beaver damage management program and is the proposed action. Under this alternative lethal and non-lethal operational damage management and technical assistance would be provided by WS. This alternative would incorporate an IWDM program utilizing any legal technique or method, used singly or in combination, to meet requester needs for resolving conflicts with beaver. Beaver would be lethally removed under this alternative by WS, but not to the extent that statewide native wildlife populations would be negatively impacted. Cooperators requesting assistance would be provided with information regarding the use of effective non-lethal and lethal techniques. In many situations, the implementation of non-lethal methods are best implemented by land owner/manager and would be the responsibility of the requester to implement. This alternative would allow WS to respond to all requests and would meet the management objectives of this EA.

- **Alternative 4 - Technical Assistance Only.** Under this alternative, WS would not conduct operational beaver damage management in Minnesota. The entire program would consist of technical assistance. Producers or any other entity directed at preventing or reducing beaver damage could conduct direct control activities in the absence of WS involvement. However, if requested, affected producers would be provided with TA information only. Impacts of this alternative would be variable dependent upon actions taken by affected resource owners. This alternative would allow WS to respond to all requests with TA, but would not meet the management objectives of this EA, and would leave some members of the public without a means to reduce beaver damage.
- **Alternative 5 - Non-lethal Beaver Damage Management.** Under this alternative, only non-lethal operational damage management and technical assistance would be provided by WS. Requests for information regarding lethal management approaches would be referred to MDNR, local animal control agencies, or private businesses or organizations. Individuals or agencies might choose to implement WS non-lethal recommendations, implement lethal methods or other methods not recommended by WS, contract for WS direct control services, use contractual services of private businesses, use volunteer services of private organizations, or take no action. In some cases, control methods employed by others could be contrary to the intended use or in excess of what is necessary. WS would not be involved in lethal control actions. However, persons receiving non-lethal assistance could still resort to lethal methods that were available to them including shooting and trapping. Effects of lethal control would be variable dependent upon actions taken by affected resource owners. This alternative would not allow WS to respond to all requests, would not meet the management objectives of this EA, and would leave some members of the public without a means to reduce beaver damage.

#### **Alternatives Considered but Not Analyzed in Detail**

Four alternatives were considered but not in detail and are described as follows with rationale:

##### **Eradication and Suppression**

An eradication and suppression alternative would direct all Minnesota WS beaver damage management efforts toward planned, total elimination or suppression of this species.

Eradication of beaver in Minnesota is not supported by Minnesota WS or MDNR. This alternative was not considered in detail because:

- Minnesota WS opposes eradication of any native wildlife species,
- MDNR opposes eradication of any native Minnesota wildlife species,
- The eradication of a native species would be extremely difficult if not impossible to accomplish, and is cost prohibitive, and
- Eradication of native species is not acceptable to most members of the public.

##### **Population stabilization through birth control.**

Contraceptive measures for mammals can be grouped into four categories: surgical sterilization, oral contraception, hormone implantation, and immuno-contraception (the use

of contraceptive vaccines). These techniques would require that beaver receive either single, multiple, or possibly daily treatment to successfully prevent conception. The use of this method would be subject to approval by federal and state agencies.

This alternative was not considered in detail because: (1) it would take a number of years of implementation before the beaver population would decline, and, therefore, damage would continue at the present unacceptable levels for a number of years; (2) surgical sterilization would have to be conducted by licensed veterinarians, would therefore be extremely expensive; (3) it is difficult to effectively live trap or chemically capture the number of beaver that would need to be sterilized in order to effect an eventual decline in the population; (4) no chemical or biological agents for contracepting beaver have been approved for use by state and federal regulatory authorities.

### **Compensation for Wildlife Damage Losses**

The compensation alternative would direct all Minnesota WS program efforts and resources toward the verification of losses from beaver, and to providing monetary compensation for these losses. Minnesota WS activities would not include any operational damage management or technical assistance.

This option is not currently available to Minnesota WS because WS is directed and authorized by law to protect American agricultural and natural resources, property and public health and safety (Animal Damage Control Act of 1931, as amended; and the Rural Development, Agricultural and Related Agencies Appropriation Act of 1988). Analysis of this alternative in USDA (1997) shows that it has many drawbacks:

- Compensation would not be practical for public health and safety problems,
- It would require larger expenditures of money to investigate and validate all losses, and to determine and administer appropriate compensation,
- Timely responses to all requests to assess and confirm losses would be difficult, and many losses could not be verified,
- Compensation would give little incentive to limit losses through other management strategies,
- Not all resources managers/owners would rely completely on a compensation program and unregulated lethal control would probably continue and escalate,
- Neither Congress nor the State of Minnesota has appropriated funds for a beaver damage compensation program.

### **Bounties**

Payment of funds for killing beaver (bounties) suspected of causing economic losses is not supported by WS, and Minnesota WS does not have the authority to establish a bounty program. Bounties are not considered because:

- Bounties are generally not effective in reducing damage,
- Circumstances surrounding take of animals is largely unregulated,



- No process exists to prohibit taking of animals from outside the damage management area for compensation purposes.

### **Finding of No Significant Impact**

The analysis in the EA indicates that there will not be a significant impact, individually or cumulatively, on the quality of the human environment as a result of implementing the proposed action. I agree with this conclusion and therefore find that an EIS need not be prepared. This determination is based on the following factors:

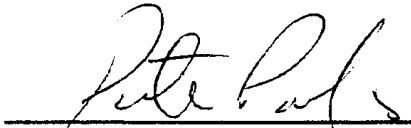
1. Beaver damage management activities, as conducted by WS in Minnesota are not regional or national in scope.
2. The proposed action would pose minimal risk to public health and safety.
3. There are no unique characteristics such as park lands, prime farm lands, wetlands, wild and scenic areas, or ecologically critical areas that would be significantly affected.
4. The effects on the quality of the human environment are not highly controversial. Although there is some opposition to the lethal components of an integrated beaver damage management program, overall, the proposed action is not highly controversial in terms of size, nature, or effect.
5. Based on the analysis documented in the EA, the effects of the proposed involvement by APHIS-WS in a beaver damage management program on the human environment would not be significant. The effects of the proposed activities are not highly uncertain and do not involve unique or unknown risks.
6. The proposed action would not establish a precedent for any future action with significant effects.
7. No significant cumulative effects on the quality of the human environment were identified through this assessment.
8. The proposed activities would not affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places, nor would they likely cause any loss or destruction of significant scientific, cultural, or historical resources.
9. An evaluation of the proposed action and its effects on T&E species determined that no significant adverse effects would occur to such species, nor would there be any impact on critical habitat for any listed species.
10. The proposed action would be in compliance with all Federal, State, and local laws imposed for the protection of the environment.

### **Decision**

I have carefully reviewed the EA and the input resulting from the public involvement process. I believe the issues and objectives identified in the EA would be best addressed through

implementation of Alternative 3 (No action/ Proposed Action). Alternative 3 is therefore selected because it offers the greatest flexibility in achieving effectiveness while minimizing cumulative adverse impacts on the quality of the human environment with respect to the issues raised for consideration in this process. The APHIS-WS program will implement the proposed action as described in the EA and in compliance with all applicable mitigation measures listed as components of standard operating procedures in Chapter 3 of the EA.

For additional information regarding this decision and copies of the EA, please contact William Paul, Assistant State Director, USDA-APHIS-Wildlife Services, 34912 U.S. Hwy. 2, Grand Rapids, MN 55744; phone (218) 327-3350.

  
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Pete Poulos, Acting Regional Director  
APHIS-WS Eastern Region

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Date 1/18/02

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